



Republic of South Africa

EDICT OF GOVERNMENT

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SANS 10232-1 (2007) (English): Transport of dangerous goods - Emergency information systems
Part 1: Emergency information system for road transport



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Edition 3

SOUTH AFRICAN NATIONAL STANDARD

Transport of dangerous goods — Emergency information systems

Part 1: Emergency information system for road transport

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Table of changes

Change No.	Date	Scope

Foreword

This South African standard was approved by National Committee StanSA SC 5140.06X, *National committee for dangerous goods standards – Classification and information*, in accordance with procedures of Standards South Africa, in compliance with annex 3 of the WTO/TBT agreement.

This standard was published in February 2007. This edition cancels and replaces edition 2 (SABS 0232-1:2000).

SANS 10232 consists of the following parts, under the general title *Transport of dangerous goods – Emergency information systems*:

Part 1: Emergency information system for road transport.

Part 2: Emergency information system for rail transport.

Part 3: Emergency response guides.

Part 4: Transport emergency card.

Annexes B and C form an integral part of this part of SANS 10232. Annexes A, D and E are for information only.

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Transport of dangerous goods — Emergency information systems

Part 1:

Emergency information system for road transport

1 Scope

1.1 This part of SANS 10232 covers requirements for emergency information systems, such as requirements for hazard class diamonds, placards and emergency information documents.

1.2 The emergency information system as documented in this part of SANS 10232 is intended to assist emergency services response teams in the mitigation of an incident that involves dangerous goods.

NOTE SANS 10232-3, is based on the information contained in this part of SANS 10232 and forms an integral component of the emergency information system in that it gives the recommended action to be taken by the first responder who arrives at the scene of an incident and by the emergency services during the first stage of response.

2 Normative references

2.1 Standards

The following referenced documents are indispensable for the application of this document. All normative documents are subject to revision and, since any reference to a normative document is deemed to be a reference to the latest edition of that document, parties to agreements based on this document are encouraged to take steps to ensure the use of the most recent editions of the normative documents indicated below. Information on currently valid national and international standards can be obtained from Standards South Africa.

ISO 1496-1, *Series 1 freight containers – Specification and testing – Part 1: General cargo containers for general purposes*.

ISO 1496-2, *Series 1 freight containers – Specification and testing – Part 2: Thermal containers*.

ISO 1496-3, *Series 1 freight containers – Specification and testing – Part 3: Tank containers for liquids, gases and pressurized dry bulk*.

ISO 1496-4, *Series 1 freight containers – Specification and testing Part 4: non-pressurized containers for dry bulk*.

ISO 1496-5, *Series 1 freight containers – Specification and testing Part 5: Platform and platform-based containers*.

ISO 8323, *Freight containers – Air/surface (intermodal) general purpose containers – Specification and tests*.

[SANS 10206, The handling, storage and disposal of pesticides.](#)

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SANS 10228, *The identification and classification of dangerous goods for transport.*

SANS 10231, *Transport of dangerous goods – Operational requirements for road vehicles.*

SANS 10232-3, *Transportation of dangerous goods – Emergency information systems – Part 3: Emergency response guides.*

SANS 10232-4, *Transport of dangerous goods – Emergency information systems – Part 4: Transport emergency card.*

SANS 10233 (SABS 0233), *Intermediate bulk containers for dangerous substances.*

SANS 10406, *Transport of dangerous goods – The reprocessing of previously certified packaging.*

SS 01 91 02, colour atlas 96.

2.2 Other publications

International maritime dangerous goods code (IMDG code) London: International Maritime Organization.

Pantone color formula guide 1000. Moonachie, NJ: Pantone Inc. 1991.

3 Definitions and abbreviations

3.1 Definitions

For the purposes of this part of SANS 10232, the following definitions and abbreviations apply.

3.1.1

certified clean

descriptive of a vehicle, freight container or tank container that has been used to carry goods listed in SANS 10228 as dangerous, but that is now free from contamination by such cargo and has been certified as such in accordance with SANS 10231

3.1.2

combination of motor vehicles

as defined in the relevant national legislation (see annex A)

3.1.3

consignee

as defined in the relevant national legislation (see annex A)

3.1.4

consignor

person who offers dangerous goods for transport in a vehicle referred to in the relevant national legislation (see annex A)

3.1.5

dangerous goods

commodities, substances and goods listed in SANS 10228

3.1.6

dangerous goods placard

single placard with separate, delineated zones for goods identification, telephonic advice numbers and the appropriate hazard class diamond

3.1.7

danger warning diamond

orange diamond that complies with the requirements of 5.5, and that is displayed on the front of the vehicle

3.1.8

designated space

container, of colour orange and marked with the word "DOCUMENTS" in black, that is permanently fixed in a clearly visible space near the centre of the cab so as to be easily accessible from either one of the doors or through a broken front window

NOTE The construction of the container and type of material used are not prescribed.

3.1.9

exempt quantities

quantity of dangerous goods (see SANS 10231) which, if not exceeded in the total load, is exempt from the requirements in the relevant national legislation (see annex A) for the transport of dangerous goods

3.1.10

freight container

free-standing containment unit, used for the transport of dangerous goods, of a permanent character and strong enough for repeated use, designed specifically for the carriage of goods by more than one mode of transport and that complies with the requirements of ISO 1496-1

3.1.11

gross vehicle mass

as defined in the relevant national legislation (see annex A)

3.1.12

incident

unplanned event during the transport or storage of dangerous goods which includes incidents such as leakage, spillage, fire or other unplanned events

3.1.13

mixed load

multiload

as described in 4.5

NOTE The terms "mixed load" and "multiload" are synonymous, and may both be used until amended in national legislation.

3.1.14

operator

person responsible for the use of a motor vehicle for the transport of dangerous goods as defined in the relevant national legislation (see annex A)

3.1.15

qualified person

person trained to perform a specific task, and nominated by the operator, the consignor or the consignee

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3.1.16

rigid vehicle

vehicle where the driving unit and the cargo containment unit are mounted on a single, fixed chassis

3.1.17

semi-trailer

as defined in the relevant national legislation (see annex A)

3.1.18

single load

dangerous goods cargo that comprises either a single substance or goods that have the same UN number

3.1.19

split placard

system of placarding where a rectangle that contains the UN number and a hazard class diamond are affixed in close proximity, as required for freight containers in accordance with the IMDG regulations

3.1.20

trailer

as defined in the relevant national legislation (see annex A)

3.1.21

transport emergency card

card that lists the hazards and emergency information for a dangerous substance being transported, and that is intended for use by the driver during an incident, or by the emergency services, if required. The transport emergency card can either be generated from the European Council of Chemical Manufacturers' Federation (CEFIC) system, called a TREMCARD, or in accordance with SANS 10232-4, called a TREC

3.1.22

United Nations number

unique four digit number allocated to an item of dangerous goods listed in SANS 10228

3.2 Abbreviations

3.2.1 DGD	– Dangerous goods declaration
3.2.2 ERG	– Emergency response guide (see annex A of SANS 10232-3:2006)
3.2.3 GVM	– Gross vehicle mass
3.2.4 IBC	– Intermediate bulk containers (see SANS 10233)
3.2.5 IMDG	– International maritime dangerous goods code
3.2.6 TREC	– Transport emergency card in accordance with SANS 10232-4
3.2.7 TREMCARD	– Transport emergency card, generated from the European Council of Chemical Manufacturers' Federation (CEFIC) system
3.2.8 UN No.	– United Nations number

4 Placarding and documentation of vehicles

4.1 General requirements

4.1.1 The vehicle placarding and documentation shall at all times be an accurate reflection of the dangerous goods being transported.

4.1.2 The full placard, including the 10 mm black border (see annex B) shall be clearly visible from the roadside, whether directly fixed on the vehicle, or supported by means of a permanently fixed frame. The placard shall be clean, legible and not defaced at all times.

4.1.3 Three regular-size dangerous goods placards (see 5.2.1) shall be affixed to each cargo containment area of a rigid vehicle, semi-trailer or trailer; one at the rear and one on either side of the vehicle, so as to be clearly visible from the roadside. Vehicles with GVM less than 3 500 kg may be fitted with reduced-size placards (see 5.2.1) where space does not allow the fitting of a regular-size placard.

4.1.4 A regular-size danger warning diamond (see 5.5) shall be so affixed to the front of a vehicle or a truck tractor as to be clearly visible from the front. Vehicles with a GVM less than 3 500 kg may be fitted with a reduced-size danger warning diamond (see 5.5) where space does not allow the fitting of a regular-size danger warning diamond.

4.1.5 Dangerous goods that are transported at a temperature in excess of 100 °C (in the case of liquids) or 240 °C (in the case of solids) shall have three elevated temperature warning triangles attached to the cargo unit, one on either side and one on the rear of the unit, so as to be clearly visible from the roadside.

4.1.6 Vehicles shall, in the designated space, carry the following documents:

- a) a transport emergency card, in the form of a TREMCARD or TREC for each dangerous goods item;
- b) one or more dangerous goods declaration(s) to cover all the goods that comprise the load;
- c) confirmation of classified waste, if applicable;
- d) container packing certificate, if applicable (see SANS 10231); and
- e) a nominally empty packaging certificate (see SANS 10406), if applicable.

4.2 Road tankers and bulk carriers

In the case of road tankers and bulk carriers, the placards, dangerous goods declaration(s) and transport emergency card(s) shall be retained until the vehicle has been certified clean.

4.3 Packaged goods and intermediate bulk containers (IBCs)

4.3.1 In the case of packaged goods and IBCs all the placards shall be removed from the sides and rear of the vehicle and the documents shall be removed from the designated area immediately after all the goods have been off-loaded, provided no spillage has occurred.

4.3.2 If spillage occurred during the transport operation, the placards, DGD(s) and transport emergency card(s) shall be retained after the goods have been off-loaded, until the vehicle has been cleaned and certified as such.

4.4 Freight containers (see ISO 1496-1 to ISO 1496-5 and ISO 8323)

4.4.1 Vehicles that transport freight containers that are placarded in accordance with this part of SANS 10232 (see 4.4.2) require only a danger warning diamond in addition to the required documentation in the designated space (see clause 6).

4.4.2 Freight containers that are being transported by road as part of a journey that includes movement by sea freight or across borders, shall carry split placards that consist of the appropriate hazard class and subsidiary risk diamonds and goods identification rectangle (see B.3.2 and C.4) affixed to either side and each end of the container so that they are clearly visible from both the rear and the roadside during transport and also meet the requirements of the IMDG regulations.

Freight containers not intended to be carried as sea freight or across borders shall carry the normal dangerous goods placards on either side and each end so that they are clearly visible from both the rear and the roadside during transport.

4.4.3 The danger warning diamond and the documentation shall remain on the vehicle until all the freight containers have been removed.

4.5 Mixed loads (multiloads)

4.5.1 **Vehicles that carry goods of more than one hazard class** shall bear the words "MIXED LOAD" in the goods identification zone and the mixed load hazard class diamond in the hazard class diamond zone of the placard (see B.1.2.1, C.2 and figure B.1).

4.5.2 **Vehicles that carry goods of a single hazard class and of the same ERG** shall bear the UN No. of the most hazardous substance in the goods identification zone, and the hazard class diamond relevant to it in the hazard class diamond zone of the placard. Mixed loads of this type shall be placarded as for a single load.

4.5.3 **Vehicles that carry goods of a single hazard class but of different ERGs** shall bear the words "MIXED LOAD" in the goods identification zone and the relevant hazard class diamond in the hazard class diamond zone of the placard (see B.1.2.1, figure B.1 and table C.1).

4.6 Waste products classified as dangerous goods

4.6.1 Vehicles that transport waste products classified as dangerous goods shall comply with the requirements of 4.1 to 4.5 (inclusive).

4.6.2 The word "WASTE" shall be added above the UN No. in the goods identification zone of the dangerous goods placard (see B.1.2.1 and figure B.1).

4.6.3 A container used for the transport of dangerous goods that has not been cleaned and is not accompanied by a nominally empty packaging certificate (see SANS 10406) shall be classified as a dangerous goods waste product and shall comply with the requirements in 4.6.

4.6.4 Empty triple rinsed pesticide containers that have been rendered unserviceable (see SANS 10206) shall be classified as non-hazardous.

4.7 Transport of petroleum-based products

4.7.1 The following petroleum-based products: diesel (UN 1202), petrol (UN 1203), kerosene (UN 1223) and aviation fuel (UN 1863) may be placarded with the generic UN NO. 1203, either singly or as a mixed load.

NOTE It is recommended that a tank vehicle, which is dedicated to any of these products, uses the appropriate UN number for the product on the placard.

4.7.2 When transporting petroleum-based products as in 4.7.1, transport emergency card(s) shall reflect the actual substance(s) on the vehicle.

4.8 Transport of gases

4.8.1 When transporting a single gas, the relevant placard and transport emergency card shall apply.

4.8.2 Mixed loads of gases may be transported under the following 5 group transport emergency cards:

- a) Compressed gases, oxidizing.
- b) Compressed gases, toxic.
- c) Compressed gases, flammable.
- d) Compressed gases (except Air, compressed), asphyxiant.
- e) Liquefied gas, flammable.

5 Requirements for placards

5.1 General

NOTE See also annex A.

Provision is made for three types of placarding, namely:

- a) dangerous goods placards;
- b) danger warning diamonds; and
- c) split placarding.

5.2 Dangerous goods placard

5.2.1 Dimensions

The dimensions of regular size and reduced-size dangerous goods placards shall be as given in B.1 and B.2, respectively.

5.2.2 Placard zones

5.2.2.1 A dangerous goods placard shall be divided into the following emergency information zones:

- a) the goods identification zone (see 5.2.2.2);
- b) the telephonic advice number zone (see 5.2.2.3 and 5.2.2.4); and
- c) the hazard class diamond zone (see 5.2.2.5).

The dimensions of the zones shall be as given in B.1.2 and B.2.1.

5.2.2.2 The goods identification zone shall indicate the four-digit UN No. of the dangerous goods being transported. When waste is transported, the word "WASTE" shall be added above the UN No. In the case of a mixed load the words "MIXED LOAD" shall appear in the goods identification zone, with the two words "MIXED" and "LOAD" on separate lines (see also B.1.2).

5.2.2.3 The operator telephonic advice number zone shall contain one or two telephone numbers, one of which shall be a landline, preceded by the area code. This landline shall be available on a 24 h basis, and shall be the number of the operator at the premises from which the business is conducted. It shall be possible to obtain details about the cargo and the route of the vehicle at this number.

5.2.2.4 The specialist telephonic advice number zone shall contain one or two telephone numbers, one of which shall be a landline, preceded by the area code. This landline shall be available on a 24 h basis, and shall be the number of a party that can supply specialist advice on the hazards associated with the cargo.

5.2.2.5 The hazard class diamond zone shall display the hazard class diamond appropriate to the hazard associated with the goods in terms of SANS 10228. Where subsidiary risks are identified in terms of SANS 10228, the subsidiary risk diamonds shall be attached to the sides of the hazard class warning diamond as shown in figure B.1.

5.3 Hazard class diamond

A hazard class diamond used on a regular size placard shall comply with the requirements given in annex C.

5.4 Subsidiary risk diamond

Subsidiary risk diamonds used in split placarding shall be identical to hazard diamonds.

Subsidiary risk diamonds added to a hazard placard shall be of the same design and colour as hazard diamonds but reduced to 100 mm side dimensions.

5.5 Danger warning diamond

A danger warning diamond shall be a square with each side of length 250 mm, set with one of its diagonals vertically. A reduced-size diamond shall be a square with each side of length 100 mm, set with one of its diagonals vertically. The colour of the diamond shall be orange, and its design shall comply with the requirements given in C.3.

5.6 Mixed load diamond

A mixed load diamond shall be a square with each side of length 250 mm, set with one of its diagonals vertically and of design and colour as given in C.2.

5.7 Goods identification rectangle

A goods identification rectangle, for use in split placarding, shall be of width 150 mm and of length 290 mm, of colour orange, and of design as given in C.4.

5.8 Elevated temperature warning triangle

An elevated temperature warning triangle shall be an equilateral triangle with each side of length 250 mm and of design as given in C.5.

6 Emergency information documents

6.1 Transport emergency card

6.1.1 Transport emergency card(s) are intended for use by the driver of the dangerous goods vehicle but might also be required by the emergency services in the absence of other information, or in support of available information. Any vehicle used for the transport of dangerous goods shall have a transport emergency card for each dangerous goods item in the load.

6.1.2 The transport emergency card(s) shall be stored in the designated space.

6.1.3 The transport emergency card shall be generated either from the CEFIC system, or in accordance with SANS 10232-4, and shall be in English.

6.1.4 The transport emergency card shall be reproduced on paper of size A4, with a left and a right border, consisting of 10 mm wide vertical lines in red to visually match Pantone 192 or NCS 0580-Y90R (see annex D.1 and D.2).

6.1.5 The transport emergency card shall be clean and legible.

6.1.6 The validity of the transport emergency card shall be three years from the generation date in the bottom left hand corner for a transport emergency card generated from the CEFIC system (a TREMCARD) (see D.1), and three years from the preparation date in the bottom right hand corner for a transport emergency card generated in terms of SANS 10232-4 (a TREC) (see D.2).

6.2 Dangerous goods declaration

6.2.1 The dangerous goods declaration shall bear the heading "DANGEROUS GOODS DECLARATION" and shall contain the following information (see annex E for the example):

- a) the proper shipping name in accordance with SANS 10228;
- b) the UN No.;
- c) the hazard class and the packing group, where applicable;
- d) the quantity and type of packaging, or the word "bulk", where applicable;
- e) the gross mass, and the net mass or volume of the goods;
- f) the names and contact details of the following parties (where applicable):

consignor, product manufacturer, product owner, product custodian, party contracting the operator, operator and consignee;

NOTE Not all these details might be available in the case of dangerous goods from outside South Africa.

- g) the following declaration signed by the consignor:

"I hereby declare that the content of this consignment is fully and accurately described above by the proper shipping name, and is classified, packaged, marked and labelled/placarded, and is in all respects in proper condition for transport in accordance with the relevant national legislation."; and

NOTE See SANS 10231 for the different persons the consignor might possibly be.

- h) the following declaration signed by the driver:

"The consignment above has been received into my vehicle. My vehicle is correctly placarded and I am in possession of all necessary transport documentation pertaining to the transport of dangerous goods, including information to be followed in the case of an emergency".

6.2.2 The DGD shall be stored in the designated space.

6.2.3 Copies of the DGD shall be retained by the consignor for a minimum of 90 days after the date of shipment, if no incident is reported. If an incident is reported the DGD shall be retained for the duration of the relevant investigation.

6.3 Waste classification confirmation

In cases where a vehicle transports waste that contains any material listed as a dangerous substance in SANS 10228, and where the total quantity of such material, either by itself or in combination with other such materials, exceeds the exempt quantity (see SANS 10231), that vehicle shall carry written confirmation of the classified waste.

NOTE The confirmation can be included in the DGD, or other delivery documentation.

6.4 Other licences and permits

6.4.1 In cases where a vehicle transports explosives, licences and permits shall be obtained from the relevant competent authority as required by the relevant national legislation (see annex A).

6.4.2 In cases where a vehicle transports radio-active materials, licences and permits shall be obtained from the relevant competent authority as required by the relevant national legislation (see annex A).

Annex A
(informative)

South African Acts

The following Acts are relevant to the transport of dangerous goods in South Africa:

- a) the National Road Traffic Act, 1996 (Act No. 93 of 1996);
- b) the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993);
- c) the Fire Brigade Services Act, 1987 (Act No. 99 of 1987);
- d) the Explosives Act, 1956 (Act No. 26 of 1956);
- e) the National Nuclear Regulators Act, 1999 (Act No. 47 of 1999);
- f) the Customs and Excise Act, 1964 (Act No. 91 of 1964);
- g) the National Environmental Management Act, 1998 (Act No. 107 of 1998);
- h) the National Water Act, 1998 (Act No. 36 of 1998); and
- i) the Hazardous Substances Act, 1992 (Act No. 53 of 1992).

Annex B

(normative)

Requirements for placards

B.1 Dangerous goods placard

B.1.1 Construction and size

Any dangerous goods placard shall be constructed as follows:

- a) the material of construction shall be sufficiently rigid to prevent any distortion when the placard is exposed to forces encountered during transportation by the relevant mode of transport;
- b) the dangerous goods placard shall be of width 700 mm and of height 400 mm, as shown in figure B.1;
- c) the dangerous goods placard shall be divided into four zones by black lines of width 10 mm and shall have a black border of width 10 mm, as shown in figure B.1;
- d) provision shall have been made for attachment of the dangerous goods placard to the vehicle, and the means of attachment shall be of sufficient strength to resist distortion or disruption when exposed to the forces encountered during the normal road use of the vehicle; and
- e) the background colour of the zones, letters, numbers and graphic designs may be of silk-screened or painted metal plate or rigid plastics, or may be formed by the application of peel-and-stick plastics material or coated paper.

B.1.2 Placard zones

B.1.2.1 Goods identification zone

The goods identification zone within the black border (see B.1.1(c)) shall be of width 290 mm and of height 130 mm, and shall be orange (see C.1.2).

The UN No. and the words "MIXED LOAD" and "WASTE" shall be black.

The characters of the UN No. shall be of height 100 mm. In the case of a single load of waste the word "WASTE" and the characters of the UN No. shall be of height 50 mm. In the case of a mixed load the words "MIXED LOAD" shall be of height 50 mm and the two words "MIXED" and "LOAD" shall be on separate lines.

B.1.2.2 Operator telephonic advice number zone

The operator telephonic advice number zone (see figure B.1) shall be of width 290 mm and of height 115 mm, and shall be orange (see C.1.2). The characters of the telephone number(s) shall be of height 50 mm and shall be black.

B.1.2.3 Specialist telephonic advice number zone

The specialist telephonic advice number zone (see figure B.1) shall be of width 290 mm and of height 115 mm, and shall be orange (see C.1.2). The characters of the telephone number(s) shall be of height 50 mm and shall be black.

B.1.2.4 Hazard class diamond zone

The hazard class diamond zone shall contain the hazard class diamond (see table C.1) and, where applicable, any subsidiary risk diamond(s), or the mixed load diamond.

The hazard class diamond zone within the black border (see figure B.1) shall be a square with each side of length 380 mm and shall be white.

B.1.3 Design

The dangerous goods placard design shall be as shown in figure B.1.

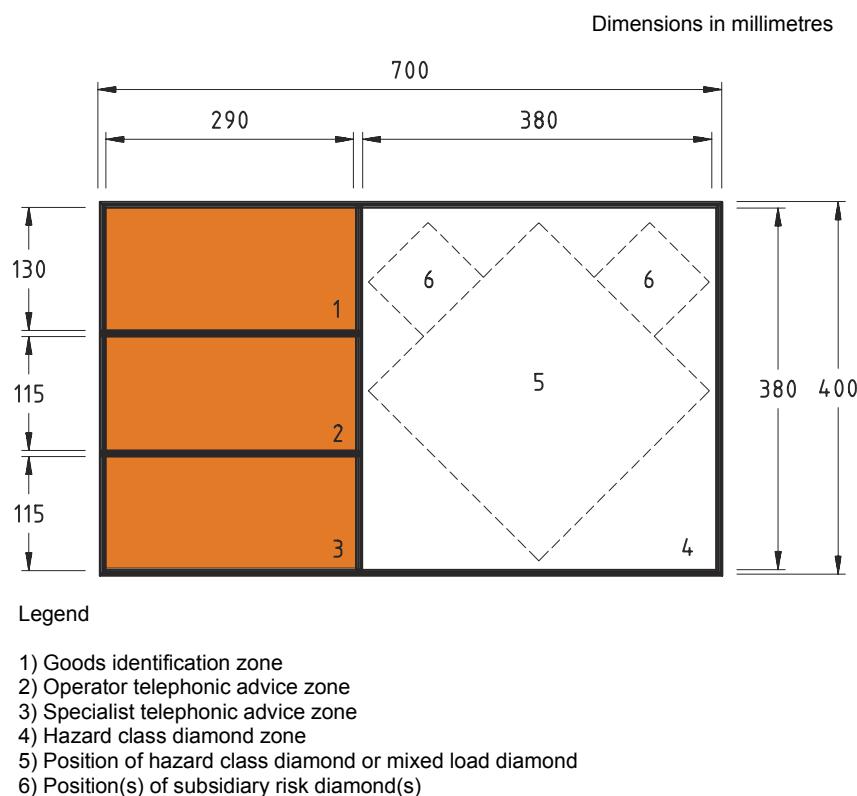


Figure B.1 — Dangerous goods placard design

B.2 Reduced-size dangerous goods placard

All the requirements of B.1 shall apply with the exception of those modified by B.2.1 to B.2.5 (inclusive).

B.2.1 Dimensions

The dimensions of the reduced-size dangerous goods placard shall be as shown in figure B.2.

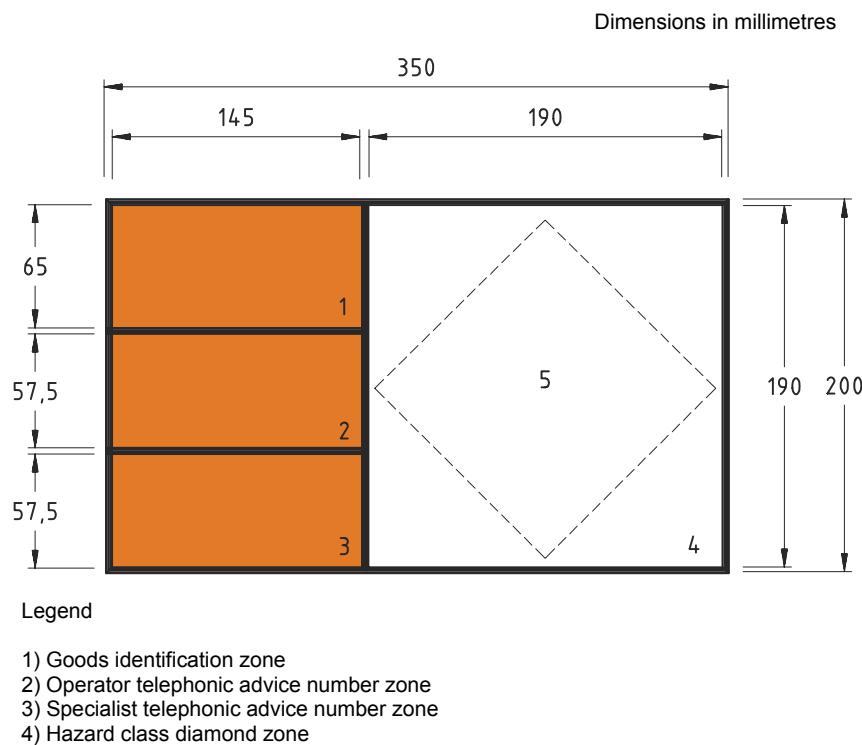


Figure B.2 — Reduced-size dangerous goods placard

B.2.2 Goods identification zone

The characters of the UN No. shall be of height 50 mm. In the case of a single load of waste the word "WASTE" and the characters of the UN No. shall be of height 25 mm. In the case of a mixed load the words "MIXED LOAD" shall be of height 25 mm and the two words "MIXED" and "LOAD" shall be on separate lines.

B.2.3 Operator telephonic advice number zone

The characters of the telephone number(s) shall of height 25 mm.

B.2.4 Specialist telephonic advice number zone

The characters of the telephone number(s) shall of height 25 mm.

B.2.5 Hazard class diamond zone

It shall not be required to attach subsidiary risk diamonds to the main hazard class diamond.

B.3 Freight container placards

A freight container shall have split placards that consist of a goods identification rectangle, a hazard class diamond, or a mixed load diamond and subsidiary risk diamond(s), in accordance with B.3.1, B.3.2 and annex C.

B.3.1 Goods identification rectangle

The goods identification rectangle shall comply with the requirements given in C.4 and shall contain either the UN No., or the word "MIXED LOAD", or the word "WASTE" above the UN No., as applicable.

B.3.2 Split placard configuration

The goods identification rectangle with the UN No. shall be placed adjacent to (on either side of) the hazard class diamond and the subsidiary risk diamond(s) (see figure B.3 and figure B.4).

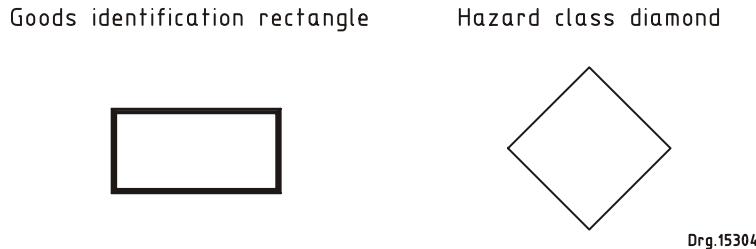


Figure B.3 — Goods identification rectangle and hazard class diamond

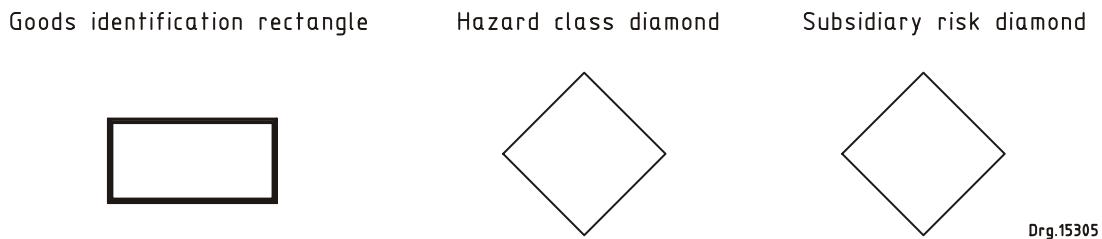


Figure B.4 — Goods identification rectangle, hazard class diamond and subsidiary risk diamond

Annex C
(normative)

Requirements for hazard class diamonds

C.1 Hazard class diamonds

C.1.1 The hazard class diamond shall be a square with each side of length 250 mm, set at an angle of 45° (diamond shaped). The subsidiary risk diamond and the reduced-size hazard class diamond shall be identical in design and colour to the hazard class diamond, but with sides of 100 mm.

C.1.2 The colours of the hazard class diamonds, the reduced-size hazard class diamonds and the subsidiary risk diamonds shall visually match colour reference numbers Pantone 151 or NCS S 0570-Y50R (orange), Pantone 192 or NCS S 0580-Y90R (red), Pantone 361 or NCS S 1565-G (green), Pantone 300 or NCS S 2065-B (blue), and Pantone 109 or NCS S 0570 G90Y (yellow). In case of a dispute the NCS colours shall take precedence.

Table C.1 — Hazard class diamonds

1	2
Hazard class	Hazard class diamond
1.1, 1.2, or 1.3	 (See NOTES 1 and 2)
1.4	 (See NOTE 2)
1.5	 (See NOTE 2)
1.6	 (See NOTE 2)
2.1	
NOTE 1 Insert the division for explosives (see SANS 10228), in the space marked * *. To be left blank if explosive is the subsidiary risk.	
NOTE 2 Insert the compatibility group (see SANS 10228), in the space marked *, denoted by a letter A to N (excluding I and M) and S as indicated in SANS 10228. To be left blank if explosive is the subsidiary risk.	

Table C.1 (continued)

1	2
Hazard class	Hazard class diamond
2.2	 NON-FLAMMABLE NON-TOXIC GAS 2
2.3	 TOXIC GAS 2
3	 FLAMMABLE LIQUID 3
4.1	 FLAMMABLE SOLID 4
4.2	 SPONTANEOUSLY COMBUSTIBLE 4
4.3	 DANGEROUS WHEN WET 4

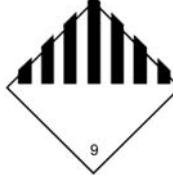
Table C.1 (continued)

1	2
Hazard class	Hazard class diamond
5.1	 5.1
5.2	 5.2
6.1	 6
6.2	 6
7	 7
7	 7

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Table C.1 (concluded)

1	2
Hazard class	Hazard class diamond
7	 A yellow diamond hazard class symbol for radioactive materials. It features a black trefoil symbol at the top, followed by the word "RADIOACTIVE" and three vertical bars of increasing height. Below that is the word "CONTENTS" and "ACTIVITY". At the bottom is a small box labeled "TRANSPORT MODE" and the number "7".
8	 A black diamond hazard class symbol for corrosive materials. It features two hands holding a test tube with liquid, showing visible irritation. Below the hands is the word "CORROSIVE". At the bottom is the number "8".
9	 A black diamond hazard class symbol for special hazards. It features a series of diagonal black stripes forming a mountain-like shape. At the bottom is the number "9".

C.2 Mixed Load diamond

A mixed load diamond shall be a square with each side of length 250 mm, set at an angle of 45° (diamond shaped) see C.1.1. The reduced-size mixed load diamond shall be a square with each side of length 100 mm, set at an angle of 45° (diamond shaped). The colour shall be orange (see C.1.2) against a white background with the word "DANGEROUS" in black, as shown in figure C.2.



Figure C.2 — Mixed Load diamond

C.3 Danger warning diamond

The danger warning diamond shall be a square with each side of length 250 mm, set at an angle of 45° (diamond shaped). The reduced-size danger warning diamond shall be a square with each side of length 100 mm, set at an angle of 45° (diamond shaped). The colour shall be orange (see C.1.2 and figure C.3).

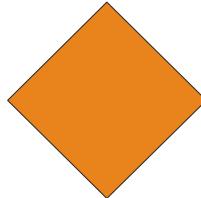


Figure C.3 — Danger warning diamond

C.4 Goods identification rectangle

The goods identification rectangle shall be of height not less than 120 mm and of width not less than 300 mm. The rectangle shall have a black border of width 10 mm. The background colour shall be orange and the characters (see B.3.1) shall be black (see figure C.4).



Figure C.4 — Goods identification rectangle

C.5 Elevated temperature warning triangle

The elevated temperature warning triangle shall be an equilateral triangle with each side of length 250 mm. The colour shall be red against a white background (see figure C.5).



Figure C.5 — Elevated temperature warning triangle

Annex D

(informative)

Examples of transport emergency cards

D.1 Example of a TREMCARD

Cefic Tremcard - Instructions in Writing

LOAD

Motor Spirit or Gasoline or Petrol

Colourless liquid - Perceptible odour
Immiscible with water
Lighter than water

Class	3
PG	II
HL No	33
UN	1203

NATURE OF DANGER

Highly flammable
May form explosive mixture with air, particularly in empty uncleared receptacles
The vapour may have narcotic effect and in high concentrations may induce unconsciousness which can be fatal may evaporate quickly
The vapour may be invisible. The vapour is heavier than air and spreads along ground
Heating will cause pressure rise with risk of bursting and subsequent explosion.

PERSONAL PROTECTION

Protective gloves
Protective footwear
Eyewash bottle with clean water

INTERVENTION EQUIPMENT

Shovel
Broom
Sand or other absorbent
Alternatively, appropriate spill kit.

GENERAL ACTIONS BY THE DRIVER

Stop the engine.
No naked lights. No smoking.
Mark roads with self-standing warning signs and warn other road users or passers-by
Keep public away from danger area. Keep upwind.
Notify police and fire brigade as soon as possible.

ADDITIONAL AND/OR SPECIAL ACTIONS BY THE DRIVER

Any action only if without personal risk.
Stop leaks if without risk.
Contain or absorb leaking liquid with sand or earth or other suitable material.
Avoid direct contact with substance.
Vapour may create explosive atmosphere.
Avoid making sparks.
Prevent liquids entering water courses, sewers, basements and workpits.
If substance has entered a water course or sewer or been spilt on soil or vegetation, inform police
Warn everybody: Explosion hazard.

FIRE (information for the driver in case of fire)

Do not attempt to deal with any fire involving the load.

FIRST AID

If substance has got into the eyes, immediately wash out with plenty of water. Continue treatment until medical assistance is provided.
Remove contaminated clothing immediately and wash affected skin with plenty of water.
Seek medical treatment when anyone has symptoms apparently due to inhalation, swallowing or contact with skin or eyes.
In case of burns immediately cool affected skin as long as possible with cold water.

SUPPLEMENTARY INFORMATION FOR EMERGENCY SERVICES

Keep container(s) cool by spraying with water if exposed to fire.
Extinguish with waterspray or preferably with foam or dry chemical.
Do not use water jet.
Sewers must be covered and basements and workpits evacuated.
Use low-sparking handtools and explosion-proof electrical equipment.

Additional information

EMERGENCY TELEPHONE

@Cefic Prepared by Cefic from the best knowledge available: no responsibility is accepted that the information is sufficient or correct in all cases

Cefic TEC(R) - 30S1203

2006-10-13

APPLIES ONLY DURING ROAD TRANSPORT ENGLISH

Cefic Revision 01/2006 Issue: 2005.1

D.2 Example of a TREC

TRANSPORT EMERGENCY CARD – Road transport

In accordance with SANS 10232-4

UN No.	
Class	
Subsidiary risk	
Packing group	
ERG No.	

PROPER SHIPPING NAME

.....

APPEARANCE

.....

DANGER

..... (H phrases)

PERSONAL PROTECTIVE EQUIPMENT

..... (PP phrases)

EMERGENCY RESPONSE EQUIPMENT

..... (ER phrases)

DRIVER FIRST ACTIONS – Only if it can be carried out without personal risk

..... (D phrases)

DRIVER SPECIAL/ADDITIONAL ACTIONS – Only if it can be carried out without personal risk

..... (S phrases)

DRIVER ACTIONS IN CASE OF FIRE – Only if it can be carried out without personal risk

..... (F phrases)

FIRST AID

..... (A phrases)

SPECIAL INFORMATION FOR EMERGENCY SERVICES

..... (E phrases)

ADDITIONAL INFORMATION

EMERGENCY TELEPHONE NUMBERS

PREPARED BY from the best knowledge currently available; no guarantee is provided that the information is sufficient or correct under all circumstances.

Date M/Y: 09/2006
Reference:

Annex E
(informative)

Example of a completed dangerous goods declaration

DANGEROUS GOODS DECLARATION				Company Logo (optional)		
Consignment Note No: 101 11X						
Consignor: R A Jones, Jones Warehouse, 100 High Rd, Germiston Tel: 011 100 1000				Operator: B Higgins, Higgins Road freight, 200 South Ave, Germiston Tel: 011 200 2000 Reg. no. vehicle: XYZ 200 GP		
Product manufacturer				Consignee: ABC Chemicals, 300 Marine Drive, Durban Tel: 031 300 3000		
Product owner				Additional information on handling/transport/ storage: The package marked with UN XXXX shall be shaded from sunlight		
Product custodian						
Party contracting the operator: R A Jones, Jones Warehouse, 100 High Rd, Germiston Tel: 011 100 1000						
Shipping name	UN No.	Haz class	PG	Quantity & type of packaging	Gross mass kg	Net mass/vol kg/L
Paint	1263	3	III	2 fibreboard boxes, 4 x 5 L each	52	41.5
DECLARATIONS						
<i>"I hereby declare that the content of this consignment is fully and accurately described above by the proper shipping name, and is classified, packaged, marked and labelled/placarded and in all respects in proper condition for transport in accordance with the relevant national legislation."</i>						
Where the consignor is not the manufacturer, the declaration is based on information received.						
Consignor : Product manufacturer <input type="checkbox"/> / Product owner <input type="checkbox"/> / Product custodian <input type="checkbox"/> / Party that contracts the operator <input checked="" type="checkbox"/> :						
Signed:	<i>R A Jones</i>			Date:	2006-09-07	
<hr/> <i>"The consignment described above has been received into my vehicle. My vehicle is correctly placarded and I am in possession of all necessary transport documentation pertaining to the transport of dangerous goods, including information to be followed in case of an emergency."</i>						
Driver						
Signed:	<i>J K Williams</i>			Date:	2006-09-07	

Bibliography

European agreement concerning the international carriage of dangerous goods by road (ADR).

United States Department of Transportation. Research and Special Programs Administration.
Emergency response guidebook. Washington.

UN Recommendations on the Transport of Dangerous Goods, Model Regulations.

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